

The Japan Times:

Shinkansen about more than speed

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Shinkansen stand as global symbols of Japanese technological innovation. Debuting just in time for the 1964 Tokyo Olympics, the bullet trains continue to carry people across the nation at record speed.

Following are some facts about the shinkansen:

What is the shinkansen system?

It is a network of high-speed railways connecting major cities nationwide. Trains average speeds topping 200 kph. The term shinkansen generally refers both to the network and the bullet trains.

The Tokaido Shinkansen Line linking Tokyo and Osaka was the first to open, with the Oct. 1, 1964, debut of the Hikari superexpresses for the start of the Tokyo Olympics, which started nine days later. The trains connected the two major cities in four hours, compared with six hours for conventional trains.

The shinkansen network has continued to expand, reaching into the [Tohoku region](#), Niigata, Nagano, the Sanyo region and Kyushu. Begun as part of the former Japanese National Railways, the lines are now operated by the Japan Railway group carriers.

Although considered a postwar marvel, shinkansen trains trace their roots to the wartime era.

According to West Japan Railway Co., construction of a high-speed railway began in 1941 to facilitate military transport. The plan was to build the railway without any grade crossings so trains could attain speeds of 150 kph, and eventually 200 kph. As the war intensified, however, construction halted.

Following Japan's defeat, reconstruction proceeded rapidly. Eventually, a high-speed railway similar to the one begun during the war was designed to cope with excessive demand that was overwhelming the Tokaido Line, a conventional train line that connected Tokyo and the Kansai region.

The government began constructing the shinkansen in 1959 with a loan of \$80 million from the [World Bank](#).

How have bullet trains evolved over the years?

They've gotten faster.

Aiming to set a world record at 210 kph, the original 0 (Zero) Series trains were equipped with cutting-edge technology, incorporating aerodynamic designs and automatic train control systems that let the drivers run them safely even in low visibility or poor weather conditions. The final 0 Series train was retired last month.

When the 300 Series shinkansen debuted in 1992, it had a maximum operating speed of 270 kph. This shortened the travel time between Tokyo and Osaka to 2 1/2 hours.

The 500 Series, launched in 1997, had a speed of 300 kph.

The N700 Series, which debuted last year, can accelerate to 270 kph in about 180 seconds, according to Central Japan Railway Co. (JR Tokai).

The rise in speed, however, has been matched by a loss of amenities. In the past, shinkansen were equipped with dining cars and even video cars, where large screens showed popular movies. Others had playrooms where kids could amuse themselves with jigsaw puzzles, TVs and cushioned chairs.

What influence did the shinkansen have on other countries?

Experts note that bullet trains debuted at a time when Europe's high-speed trains were limited to 160 kph. Their railways were also in decline from the growing ascent of automobiles and airplanes. Thus, Japan's success with the shinkansen stimulated Western countries.

Soon the Europeans began embarking on their own speed challenges, with Germany achieving an operating speed of 200 kph, followed by France and then Britain, according to "Zukai — TGV vs. Shinkansen Nichifutsu Kosokutetsudowo Tettei Hikaku," an illustrated comparison of Japanese and French trains by Yoshihiko Sato.

In 1981, 17 years after the opening of the Tokaido Shinkansen Line, the French began operating their own high-speed railway, the Train a Grande Vitesse, or TGV.

Japanese and European train technologies are spreading to other countries in Asia, Africa and the Americas, observers say.

For example, using French train technology, [South Korea](#) opened the speedy Korea Train Express (KTX) in 2004. Taiwan adopted shinkansen technology to launch Taiwan High Speed Rail (HSR) last year. And China started high-speed train operations between Beijing and Tianjin this year based on Japanese, German and French technologies.

Turkey's high-speed railway makes use of Spanish and South Korean technologies, and a train project in Morocco is being supported by France.

Meanwhile, countries including India, Vietnam, Argentina, Brazil and [South Africa](#) are considering launching their own high-speed railways.

The shinkansen network never stops expanding. What do people expect to gain from this?

Bullet-train lines are associated with prosperity, hence it doesn't appear that shinkansen construction will halt anytime soon.

In northern Japan, the government expects a new section of the Tohoku Shinkansen Line to open between Hachinohe and Shin Aomori stations in 2010. Meanwhile, the Shin Aomori-Shin Hakodate linkup being built on the Hokkaido Shinkansen Line is set to be completed in fiscal 2015.

Further south, on the Hokuriku Shinkansen Line, the area between Nagano Station and the Hakusan Sogo Sharyokichi depot near the city of Kanazawa is to be completed in fiscal 2014.

In Kyushu, the bullet-train line between Hakata and Shin Yatsushiro stations is to be completed in fiscal 2010, and the one between Takeo Onsen and Isahaya stations will be finished by around 2018, according to the government.

Residents in far-flung areas harbor high expectations for shinkansen. While they are naturally expected to shorten traveling time, they are also expected to encourage travel, thus increasing income for hotels, shops and [leisure facilities](#), local governments say.

In the past, politicians recognized these expectations and successfully lobbied to bring a bullet-train line to their home districts.

One notable example is former Diet member Banboku Ono, who successfully lobbied to have Gifu-hashima Station built on the Tokaido line.

The appreciation of the locals is reflected to this day by the monument built to Ono and his wife in front of the station. The inscription lauds Ono as the man who built the foundation for the area's development and thanks him for the achievement.

At the other end of the spectrum, some argue that the Joetsu Shinkansen Line is a prime example of pork-barrel politics gone bad. The late Prime Minister Kakuei Tanaka, a legendary mover and shaker, had a strong influence in getting the line built to his native Niigata Prefecture, which was known more for its [rice paddies](#) than its tourist attractions.

Is there any downside to the shinkansen?

While the government is aiming to promote balanced development and regional revitalization, some point out that the high-speed transportation network has actually encouraged more people to flock to Tokyo. They argue this means that an already prosperous area with an enormous population is benefiting more than the areas the swift trains are intended to help.

Also, some accuse the shinkansen of causing environmental pollution — noise, vibration, radio wave disorders and poor visibility that violates their right to sunlight. It is also bringing sleeping disorders and other health problems to residents who live along shinkansen lines, they say.

Some experts estimate that more than 130,000 households along the Tokaido and Sanyo shinkansen lines are suffering from pollution of some form or another.

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High-Speed Train Network to be Built Within Turkey and to Bulgaria

8 December 2008 | Turkey will be covered in a network of high-speed trains, including the rail route to Bulgaria.

The project for a high-speed train on the route Halkalı (Istanbul) – Bulgaria will start next year, the online edition of the Hur Haber information agency reported today.

Work on the routes Ankara – Istanbul, Ankara – Konya and Ankara – Sivas is underway, according to the publication. Projects for high-speed trains are also planned for the routes Sivas – Kars, Şefaati – Kayseri, Konya – Mersin – Adana, Eskişehir – Antalya and Osmaneli – Bandırma – İzmir.

The aim is for all these high-speed train routes to start functioning by 2023, when the 100th anniversary of the Turkish republic will be marked.